GREENHOUSE GAS EMISSIONS REDUCTION FUND

PROPOSAL FOR PROGRAMS TO REDUCE GREEHHOUSE GAS EMISSIONS IN NEW HAMPSHIRE

MARCH 23,2009

88 LOWELL STREET PROJECT NEW HAMPSHIRE INSTITUTE OF ART MANCHESTER, NEW HAMPSHIR

NEW HAMPSHIRE INSTITUTE OF ART

March 20, 2009

Jack Ruderman
Director, Sustainable Energy Division
Public Utilities Commission
21 South Fruit St., Suite 10
Concord, NH 03301

Dear Mr. Ruderman,

On behalf of the New Hampshire Institute of Art, I am pleased to enclose the completed application for the Greenhouse Gas Emissions Reduction grant. The New Hampshire Institute of Art respectfully requests support for the green energies used in the renovation and addition project at 88 Lowell Street in Manchester, NH.

If you have any questions, do not hesitate to contact me at (603) 836-2542 or via email at rwilliams@nhia.edu.

Thank you for your consideration of this request.

Sincerely,

Roger Williams

President

1. Cover page

1.1 Program Title:

New Hampshire Institute of Art

88 Lowell Street Project

Manchester, NH

- 1.2 Program Type: This project proposes to provide eleven (11) teaching spaces and fifty-five (55) dormitory beds in a renovated historic building and newly constructed addition on a single downtown property in Manchester. This project is pursuing LEED Gold Certification and the nature of the program fits more than one type of program listed on page 3 of the RFP including 6, 8, 9, 10 and 12.
- 1.3 Program Summary: This project provides a high performance envelope to minimize energy consumption, daylighting, natural ventilation through operable windows, mechanical ventilation through energy recovery units, water conservation through low flow toilets, showers and lavatories, rainwater harvesting to manage storm water run off and provide toilet flushing water, vegetated roof to minimize stormwater run off, water wrapped drain pipes to minimize water heating, geothermal wells as the fuel source for heat and air conditioning, photovoltaic panels minimize reliance of fuel produced electricity, and we are exploring the viability of wind turbines to further reduce the reliance on off site electricity.
- 1.4 Low Income Residential Customer Qualification: The project is not designed as a low-income residential project. However, the project will serve residential and commuting students who are eligible for institutional or federal financial aid. Of the total enrolled Bachelor of Fine Arts student population, federal aid is distributed based on household income as defined by FASFA rules. Of the student population, 91% receive institutional or federal student aid. Of that population 57% are residential students. Approximately 50% of the project will be designed for residential use and 50% for academic use, translating to 100% of aid-supported students living or taking courses within the building.
- 1.5. Identification of Applicant Organization:

New Hampshire Institute of Art

148 Concord St.

Manchester, NH 03101

Roger Williams, President

(603) 623-0313

This is a non-profit 501c3 organized under the laws of the State of New Hampshire.

1.6 Subcontractors:

Dennis Mires, AIA, President Dennis Mires, P.A., The Architects 697 Union St. Manchester, NH 03104 (603) 625-4548

Frank Lemay, President
Milestone Engineering & Construction, Inc.
6 Loudon Rd.
Concord, NH 03301
(603) 226-3877

1.7 Authorized Negotiator:

Roger Williams, President

(603) 623-0313

email: rwilliams@nhia.edu

1.8 Projected Energy Savings: 96,742kwh

1.9 Projected Greenhouse Gas Emissions Reductions: 105,156 pounds

1.10 Length of Program: This project is scheduled to be complete by the end of 2009. The targeted time period for which funding is sought is immediately, so the money can help support some of the capital costs of energy conserving features. The benefits will last throughout the life of the building which is currently projected at fifty (50) years and beyond.

1.11 Total Program Costs: \$621,724

1.12 GHGER Funds Requested: \$310,863

2. Executive Summary

This proposal seeks support for incorporating additional and innovative energy and resource conserving strategies in a new facility for the New Hampshire Institute of Art. This mixed use facility in downtown Manchester seeks GHGER funds to help support only the program costs of the features that exceed the code requirements and those of good practice. Several alternative energy features may not be funded without the use of GHGER funds.

The goal of this effort is to reduce energy conservation greenhouse gas emissions. In addition, the Institute serves not only its BFA students, but a vital community continuing education program, as well as several community outreach opportunities through its galleries and store. The ability to educate the community about the strategies employed and monitoring the success of those strategies over time is a core mission of the Institute. The Institute is aggressively pursuing a multitude of strategies in this project in order to evaluate the cost and benefits of each, and to demonstrate to their students and the community that they are good stewards of our resources.

3. Proposed Work Scope and Schedule:

Milestone in concert with subcontractors competitively bid

a. High Performance Envelope

Historic Building:

The existing building had no insulation in the walls and roof, single Pane windows and was over a dirt crawl space.

The historic building is being placed over a full insulated basement to eliminate any losses through the floor, and will have insulated walls and ceiling and new low E double pane windows.

New Addition:

The new addition is providing significant R values, low E tinted double pane windows, tight air and vapor barriers, and tan reflective roofing.

The envelope work is schedule to be complete by October 1, 2009.

\$106,724

b. Geothermal Wells:

We are anticipating three (3) 1,500' deep geothermalwells in lieu of a fossil fuel boiler plant. If we are highly successful on the first two, we may not need a third. These wells will serve water to air heat pumps, that will provide the heating and air conditioning requirement. Each heat pump will be supported with fresh air from an energy recovery unit (ERV). Heat pumps will be provided for each major space to simplify controls and minimize energy consumption.

The geothermal wells are scheduled to be complete June 2009, with the heat pumps being fully balanced and operational October 1, 2009.

\$150,000

c. Lighting & Motors:

Energy efficient lighting and variable speed motors will contribute to minimizing electrical consumption. Lighting alone will use 10% fewer watts/sf than allowed by current codes. What we have not yet been able to quantify is the benefit of daylighting, occupancy sensors, and light shelves we are providing.

Lighting and motors will be complete October 1, 2009.

\$30,000

d. Elevator:

Many projects of this nature would use a hydraulic elevator that in this case would result in a 75hp motor. Our proposed project is using a machine roomless, MRL, elevator requiring only a 30hp motor.

The elevator is scheduled to be complete by October, 1, 2009.

\$30,000

e. Rainwater Harvesting:

Since the municipal sanitary sewer and storm water drainage systems are combined in this area of downtown, it is doubly important to minimize the contributions of both. Low flow toilets, showers, and lavatories will be used throughout the building to conserve water usage and therefore, contributions to the drainage system. By harvesting rainwater and using it for flushing toilets, we also reduce the stormwater contribution from the site, as well as water consumption.

\$35,000

We are also vegetating a roof that will treat wall wash from the high wall, half of the historic building roof, as well as 500sf of flat roof. The projection is that rainwater harvesting and vegetation will reduce the offsite runoff by 67%.

\$20,000

The rainwater harvesting and vegetated roof are scheduled to be Complete by October 1, 2009.

f. Photovoltaic Solar Panels:

Photovoltaic solar panels are proposed to be installed on the proper slope of our south facing window sunshades that are designed to control direct sun on the windows in summer and permit sun in winter. That array is projected to provide 12 KW peak output or an estimated 19,710 KW/year to help offset the supplemental electric requirement of the heat pump system.

The photovoltaics are scheduled to be complete by November 1, 2009.

\$150,000

g. Wind Turbines:

We are exploring the use of wind turbines as an educational tool, as well as expecting to generate enough electricity to pay for installation, operation and maintenance. Early indications are we need to mount on a mast of a 30-40' on top of our building in order to be successful. This will require additional Planning Board action.

\$60,000

h. Educational Opportunities

As an educational institution that holds its liberal arts and art programs along with various art studios in the building, students will be exposed to the diagrammatic descriptions of the green energy systems. Techniques will be displayed throughout the first and second floor corridor system. Courses offered in the building will include programs in which 100% of the BFA student body will participate. In addition, the residents may be enrolled in any program and will use the front entry, passing through the diagrammatic descriptions to get to their dorm rooms.

Within the mission of the Institute is a commitment to community Education. The diagrams and descriptions will be offered to K-12 school programs and the general community to enhance the understanding of green energy production. School and community groups will be invited for tours, to view the displays and receive handouts to educate and promote green energies and greenhouse gas reduction programs. The mechanical and electrical rooms will also be available as scheduled to show systems labeled and monitoring equipment displayed in order to further the understanding of our students and the community.

Subtotal \$621,724

Project oversight will be provided by the Owner, Roger Williams; the Architect, Dennis Mires, P.A., The Architects, and the Contractor, Milestone Engineering & Construction. Quality Assurance is being provided by the three parties with detailed construction documents, shop drawing review, and a minimum of weekly site visits. In addition, an independent commissioning agent, GWR Engineering, has been hired to provide quality assurance by reviewing design, observing construction techniques, providing blower door tests, field inspections, balancing reports, etc., to insure the design is sound and we are achieving the desired results. Financial management will again be managed by the Owner, Roger Williams; Architect, Dennis Mires; and Contractor, Frank Lemay; with periodic NHIA Board review.

\$40,000

4. Project Benefits

- 4.1 The amount of reduced greenhouse gas emissions from all fuels used to provide electricity, heating and cooling in New Hampshire was determined from a projected electrical energy reduction from a baseline building. We are showing the result of energy modeling software that was not able to take into account the benefit of all of the strategies we are employing. Based on that model, however, we are projecting an annual reduction of 74.38 MWH or 80,851 pounds of estimated CO₂ emission reduction or 36.67 metric tons. We expect that models that can account for all of the measures taken will yield an improved result.
- 4.2 Our energy model uses the latest ASHRAE standard for the base building rather than the current energy code. It also doesn't address water heating, reduced water flows, etc. But based on the model and using a 25 year life of the building, the total project cost yields a cost per KWH of \$.26 and a cost per KWH of GHGER funds of \$.13.
- 4.3 The energy modeling program used project the peak demand as compared to the baseline building to provide the following percent savings: space heating = 86%; fans = 37%; space cooling = 9%. Therefore, the reduction in space cooling contributes to the reduction in New Hampshire's peak electric load during the summer. The expectation is the project summer savings can increase when the model takes into account exterior shading on south windows, etc.
- 4.4 The intent of this project is to demonstrate that these energy conserving strategies can be reasonably employed when thought about from the beginning. In addition, this project wants to demonstrate they can be employed in a downtown urban setting and be integrated into a viable aesthetic for the building. Also, by using the proposed electric heat and photovoltaics, it allows for additional and future on site and off site renewables for offsetting fossil fuel consumption and thereby reducing greenhouse gas emissions. Research continues in both solar and wind strategies that will likely result in reducing their costs and, efficiency over time. As water resources become more scarce/expensive and sewage treatment gets more expensive with increased volume, etc, the water and sewage conserving strategies employed in the project may help promote market transformation.
- 4.5 This project promotes innovative technologies wit the educational component being such a core mission of the institution. This is further described in paragraph 4.8. In addition, the sunshades and glazing on various exposures, photovoltaic's on the south facing sunshades, the vegetative roof, light shelves, etc., will all be visible components of the building adding interest and promoting the further exploration of such techniques.

4.6 Promote Economic Development

- a. During the heaviest months of construction, the construction activity alone will provide 65 full time equivalent jobs.
- b. The completed project will provide ongoing housing for fifty-five (55) residents.
- c. The completed project will provide the College needs for the next five (5) years. That will accommodate ten (10) new full time faculty and staff positions ranging from maintenance positions to professional positions.
- d. The additional downtown residents will expand the support of local businesses for goods and services on a continuing basis.
- e. The project puts back in service an historic building that had been vacant for over fifteen (15) years on a prime corner lot in downtown Manchester.

4.7 Promote Energy Cost Savings

The overall strategy of a tight, well insulated envelope combine with ground source heat pumps, variable frequency drive pumps, proper window shading, etc., and all geared to promote energy cost savings. As time goes on and the cost of fossil fuels is likely to increase the proposed strategy is likely to increase the energy cost savings.

- 4.8 Provide collaboration and provide useful information for future program evaluation and improvement.
 - a. The Institute has a 110 year history of engaging the community with it's strong Continuing Education program that averages approximately 1,400 students per year. The Institute owns and operates an open-to-the public art supply store and camera shop, which provides access to specialized art and photo materials, custom framing and photo developing. As a part of the Institute mission, the gallery spaces are all open to the public and free of charge. Due to the ease of access to our downtown galleries, undeserved and low-income populations are provided the opportunity to view, learn and experience artwork by students, faculty, regional and national artists.

The Institute is committed to using the green features of this project as an on-going educational opportunity for the general community. Not only will the physical form highlight some of the strategies used, but also the public spaces of the building will include diagrammatic descriptions. The diagrams and descriptions will be offered to K-12 school programs and the general community to enhance the understanding of green energy production, projected savings in energy, greenhouse gas production, water

usage, etc. School and community groups will be invited for tours to view the displays and receive handouts to educate and promote green energies and greenhouse gas reduction programs. The mechanical and electrical rooms will also be available as scheduled to show systems labeled and monitoring equipment displayed in order to further the understanding of our students and the Community.

b. This educational opportunity will be able to be updated on a regular basis as actual data will be collected form monitoring devices and a DDC control system. Results from this monitoring program will allow us to make certain adjustments with the systems, as well as indicate how the Institute might do things somewhat differently in the future.

School groups will evaluate the effectiveness and impact the diagrams have on the visiting school groups and report to the Art Education Chairperson. The responses will help the Institute develop stronger and better tools to educate the community on green energy inclusion in the project.

4.9 Otherwise be consistent with the public interest

- a. See also 4.6 and 4.8a above.
- b. This project preserves an historic building that had been vacant for over fifteen (15) years in downtown Manchester, It puts it to a vital use that will now be fully accessible. Reuse of the building not only saves the embodied energy, but makes it more energy efficient by placing it over a full basement, which it didn't have before, increases it's envelope efficiently with new windows, insulation and air/vapor barriers, and provides new efficient HVAC and lighting systems.
- c. This project saves a socially historic building in downtown Manchester. Known as Manchester's first high school, it's front door will now be the front door to New Hampshire's only accredited independent college of art.
- d. Following current planning principals of increasing density in downtown and the "live over work" concept, the users can walk to all campus buildings and the full range of downtown services, reducing the use of automobiles. Thus reducing the amount of greenhouse gas generation.
- e. The use of low flow toilets, showers, and sinks throughout the facility exceed the code requirements and, therefore, conserve water and reduce the contribution to the sewage treatment plant. This not only conserves water, but saves energy on the supplying of water, as well as saving energy on the treatment of water.

5. Measurement & Verification

An independent Commissioning Agent, GWR Engineering, has been hired to review and approve the design to achieve the stated goals. He is also required to verify installation through shop drawing review, site inspection and testing in order to ensure the Owner gets what was designed and that its meeting the goals. In addition, all systems will be submetered so we can monitor how we're doing over time. How much electricity did we spend/consume to support our geothermal/heat pump system?; how much electricity did we generate from PV? wind? What's our electric consumption for lighting?, etc.

In addition, we will have a DDC control system that will allow us to view performance at any point in time, as well as overtime.

6. Budget

The overall construction budget for the entire project is \$7.25 million. Based on bids received from subcontractors, the total premium for the features discussed is \$621,724. Certain features are not currently in the overall budget including wind turbines, photovoltaic's, and the educational graphics and posting, handouts and guided tours totaling \$250,000. These are the features that may be added at a later date, but are more cost effective if installed with the ongoing construction of the project. By requesting GHGER funds in the amount of 50% of the overall investment in the proposed technologies, they not only allow us to employ features not currently in the budget, but helps support the investment of some of the more cost effective features that have to be incorporated at the early stage of construction.

NH PUC Greenhouse Gas	Emissions Reduct	tion Fund		
Program Title:	88 Lowell St. Project			
Applicant Name:	NH Institute of Art			
Red	quested Amount fo	r Targeted Pr	ogram	
Use of Funds	Q2	Q3	Q4	Total CY 09
HP Envelope	70,000	30,000	6,724	106,724
Geothermal walls	100,000	50,000		150,000
Lighting		30,000		30,000
Elevator	10,000	20,000		30,000
Rainwater Harvesting	20,000	15,000		35,000
Vegetated Roof	10,000	10,000		20,000
Solar Panels	25,000	100,000	25,000	150,000
Wind Turbines		20,000	40,000	60,000
Educational Opportunities		10,000	30,000	40,000
Total Use of Funds	235,000	285,000	101,724	621,724

Sources of Funds	Q2	Q3	Q4	Total CY 09
Loans & Other Financing	155,000	155,000	0	310,000
GHGER Funds	80,000	130,000	101,724	311,724
Total Use of Funds	235,000	285,000	101,724	621,724

7. Applicant Qualifications

The Institute has used this design and construction team on several renovation projects of all sizes. This is the second project the Team has worked on for the Institute that involves new construction. The first was 77 Amherst St., two blocks away from this project, that provided space for studios, offices, and Art Store and Gallery. It won a NH American Institute of Art Honor Award for Adaptive Reuse (photo attached).

This is the third LEED project for Dennis Mires PA The Architects. The Architects and their design team of consultants have worked together for 20 years (see resumes attached).

This is the third LEED project for Milestone Engineering & Construction (see resumes attached).

NH Institute of Art 148 Concord St. Manchester, NH 03101 (603) 623-0313 Roger Williams, President Jessica Kinsey, Director of Development

Dennis Mires PA The Architects 697 Union St. Manchester, NH 03104 (603) 625-4548 Dennis Mires, AIA, President Stephen Peach, AIA, LEED AP

Design Day Mechanicals, Inc. One Page Hill Rd. New Ipswich, NH 03071 (603) 878-4330 David Goddard, P.E. Douglas Waitt

Reno Engineering & Light Design Reno Rd. Marlow, NH 03456 (603) 446-3426 Victor Reno, P.E.

Milestone Engineering & Construction 6 Loudon Rd. Concord, NH 03301 (603) 226-3877

Frank Lemay, President Brian Gehris, Project Manager

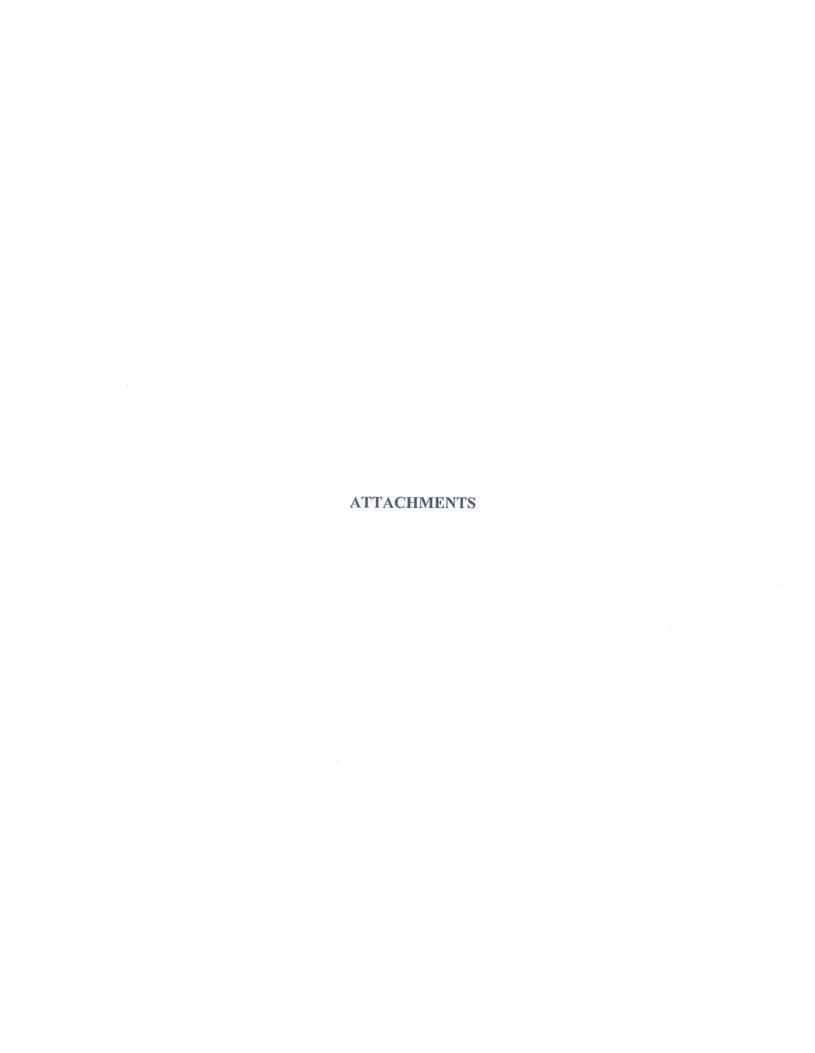
8. Additional Information

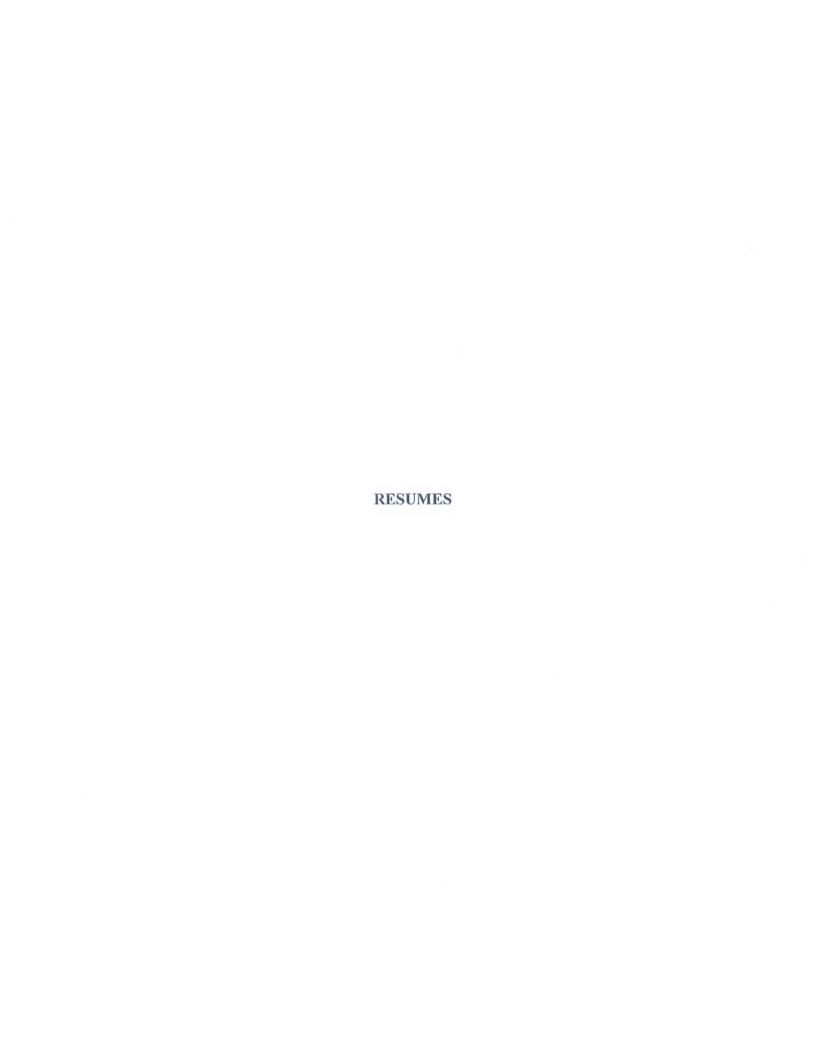
In order to have a better understanding of the proposed project, we have attached a site plan, building plans, elevations and rendering of the building.

9. Letters of Interest

See the attached letters of interest from:

- Thomas Horgan, President, New Hampshire College University Council Frank Guinta, Mayor, City of Manchester Senator Lou D'Allesandro, Senate District 20 a.
- b.
- c.





New Hampshire Institute of Art Manchester, NH

DENNIS MIRES, P.A.

DENNIS MIRES, P.A.
THE ARCHITECTS
EXCELLENCE SINCE 1980

Dennis Mires, P.A., The Architects 697 Union Street Manchester, NH Tel.#603/625-4548 Fax#603/625-1067

email: upstairs@thearchitects.net

www.thearchitects.net

Founded in 1980 by Dennis B. Mires, AIA. The 8-person firm currently has three registered architects with a wide range of architectural experience which, combined with the use of CADD, provides the firm with the flexibility and skills required to meet the needs of clients with different priorities and concerns.

Dennis Mires, P.A., THE ARCHITECTS, has a demonstrated track record of successful projects based on listening to the client components and design team. Based on a spiraling process of information and review, additional information and review, etc., THE ARCHITECTS build consensus to a project solution that is owned by the entire project team.

Dennis Mires, P.A., THE ARCHITECTS, has a history of balancing resources with owner's goals as evidenced by returning State, Municipal, School, and Corporate clients. Some projects for these budget sensitive clients have been recognized by independent juries for design excellence.

In addition to numerous public clients, Dennis B. Mires, P.A., THE ARCHITECTS, has extensive experience with industrial, commercial, institutional and hospitality clients.

Architectural registrations with the states of Connecticut, Maine, Massachusetts, New Hampshire, Vermont

DENNIS MIRES, P.A.

THE ARCHITECTS

EXCELLENCE SINCE 1980

Dennis B. Mires, AIA President

PROFESSIONAL	
EXPERIENCE	

As President of Dennis Mires, P.A. THE ARCHITECTS, Mr. Mires is responsible for all design and development and oversees all architectural projects of the firm. He had 13 years of experience as an architect with firms in Boston and Manchester prior to opening his own firm in 1980. The firm has been involved in a wide variety of projects ranging from state and municipal buildings to commercial and residential development.

EDUCATION

B. Arch., University of California, Berkeley

New Life for Old Buildings, Harvard Graduate School of Design, 1975

Designing and Building the Well-Tempered

Atrium, Institute for Energy Conscious Design, 1987

Resort Planning and Design, Harvard Graduate School of Design, 1987

MEMBERSHIPS

NH American Institute of Architects (AIA), Director 1985-1988; Member Environmental Task Force

NH Board of Registration of Architects, 1989-1999; Secretary 1990-1993; Vice Chair 1997-

Plan NH, Director 1993-1996; Treasurer 1995-1998

Manchester Enterprise Community Advisory Committee, 1995 - 2000 New Hampshire Institute of Art, Trustee 1995-2004; Board of Directors, Chair 2000-2002; Honorary

Doctor of Fine Arts, 2002

NHHFA Development Process Review Committee, 2003

Millyard Design Review Committee, 2004 - 2011

Manchester Building Board of Appeals, Alternate Member, 2005 -

PROFESSIONAL REGISTRATIONS

New Hampshire, Massachusetts, Maine, Connecticut

NCARB Certification

INSTRUCTOR

Spaces for Living, Manchester Institute of Arts Sciences, 1979

Spaces for Living, NHVTC, Manchester, NH, 1981

Plan Your Own Dream House, Kids College, Manchester, NH 1984-1985

AWARDS

AIA New Hampshire "Honor Award for Excellence in Architecture" - New Hampshire Institute of Art

- Gold Residence 1984 - Ocean Meadows 1984 - Carpenter Memorial Library 1991

Manchester Historic Association "Preservation Awards"

- NH Institute of Art, 77 Amherst St Design Award	2006
- Greater Manchester Family YMCA - Design Award	2005
- Hallsville School - People's Choice Award	2001
- Brookchester Row - Block 16	2001
- Beliveau, Fradette, Doyle & Gallant	2000
- St. George School Apartments	1999
- Wadleigh Law Firm	1997
- American Red Cross, Greater Manchester Chapter	1994
- Ash Street School	1994

New Hampshire Preservation Alliance "Achievement Award"

- Manchester Historic Association - Research Center	2007
- Manchester Historic Association - Millyard Museum	2002
- The Congregational Church of Amherst	2001

Manchester Regional Committee on Aging "1st Annual

Senior SuccessAbility Award"
- Manchester Historic Association Millyard Museum 2001 Easily Accessible

DENNIS MIRES, P.A.

THE ARCHITECTS

EXCELLENCE SINCE 1980

1991

Dennis B. Mires, AIA President

AWARDS
(cont.)

Associated Builders and Contractors NH/VT Chapter

"Excellence in Construction Awards"

Best in Show - Commercial

Best in Show - Commercial

- New Hampshire Neurospine Institute, Bedford, NH
- Rix Residence, Auburn, NH
- John O. Morton Building, Concord, NH
2005
2001

Home Builders & Remodelers Association of New Hampshire Sales and Marketing Council "Cornerstone Awards"

2004

1999

St. Charles Church

Londonderry Presbyterian Church

Merit Award

- Suncook Bank

DENNIS MIRES, P.A. THE ARCHITECTS

EXCELLENCE SINCE 1980

Stephen T. Peach, AIA LEED Accredited Professional

PROFESSIONAL EXPERIENCE

Mr. Peach's design and technical background is well founded on 15 years of hands on experience in the residential building industry and as a fine furniture designer and builder. He completed his professional architecture degree following this real world apprenticeship. Since joining Dennis Mires, P.A., THE ARCHITECTS in 1988, Mr. Peach has been Project Architect on numerous public and commercial projects. He has spearheaded the development of Dennis Mires, P.A., The Architects CADD capabilities coordinating the use of multiple CADD stations for 2D and 3D drafting and modeling.

EDUCATION

B.A. Fine Arts, Middlebury College, VT B. Arch. with Honors, Rensselaer Polytechnic Institute Semester of Study in Rome, Italy

PROFESSIONAL

REGISTRATIONS

New Hampshire

MEMBERSHIPS

NH American Institute of Architects (AIA), Board of Directors 2006 -Plan NH, Board of Directors 2006 -

RELATED PROJECTS FOR WHICH MR. PEACH WAS PROJECT ARCHITECT OR IN CHARGE OF PRODUCTION:

Southern NH Medical Center

Nashua, NH

Primary Care of Hudson and Southern NH Rehabilitation Hudson, NH

- Medical Office Building, Merrimack, NH

Greater Manchester Family YMCA Manchester, NH

 Downtown Fitness Center - Allard Center Locker Rooms

Elliot Hospital Manchester, NH

- Mammoth Rd. Pediatrics

- Breast Center - Child Care Center

River Rd. Pediatrics Bedford, NH

NH Institute of Art Amherst St. Studios/Store Manchester, NH

Ray the Mover Manchester, NH

St. Andrew's Episcopal Church Hopkinton, NH

Bel Air Nursing Home Goffstown, NH

St. Charles Catholic Church Meredith, NH

Centrix Bank & Trust Branch Office Manchester, NH

Elliot Hospital Annex Clinics

Manchester, New Boston & Raymond, NH

Lockridge Animal Hospital Manchester, NH

Bonneville & Sons Manchester, NH

Parish of the Resurrection

Nashua, NH

John O. Morton Building Concord, NH

Animal Rescue League of NH Bedford, NH

Nesmith Library Windham, NH

Bedford Public Library Bedford, NH

Station No. 5 Manchester Fire Department

American Red Cross Greater Manchester Chapter

Animal Hospital of Nashua Nashua, NH

Hallsville & Wilson Schools

Manchester, NH

Seacoast Science Ctr. Odiorne Pt. State Pk. Rye, NH

DESIGN DAY MECHANICALS INC

DESIGN DAY MECHANICALS, INC. is a mechanical engineering and design firm specializing in HVAC and plumbing systems. We were incorporated in March 1988. The three main individuals responsible for professional engineering and design work are David E. Goddard, P.E., Doug Waitt (HVAC), and Richard Gagnon (Plumbing).

Our firm is fully "computerized", offering clients precise, professional designs and consulting products. We utilize *AutoCad* version 2007 software for all our drafting requirements and have over sixteen years of experience with this method. Our specifications are generated with *WordPerfect 8.0*, and *Microsoft Word* software.

Products range from consultation to brief scope of work documents to full mechanical plans and specifications suitable for competitive bidding.

Some of our current architectural clients include:

Bannister and Greenberg Architects, Putney, VT (Phil Bannister, AIA, 802-387-2457);

Bay State Design Associates, Woburn, MA (David Mains, 1-781-932-2467 ext 141);

Bruce Ronayne Hamilton, Architects, New Ipswich, NH (Bruce Hamilton, AIA, 603-878-4823);

Jordan and Barker Atchitects, Concord, NH (Kyle Barker, AIA, 603-225-3160);

JRT - AIA Architect, Hopkinton, NH (Jerry Tepe, AIA, 603-223-9938);

Dennis Mires, P.A., The Architects, Manchester, NH (Dennis B. Mires, AIA, 603-625-4548);

PH Design, Hollis, NH, (Paul Hemmerich, AIA, 603-465-9090;

Stenbak Design, Londonderry, NH, (Kirk Wilkinson, AIA, 603-425-5100 ext 134;

Team Design, Inc., Londonderry, NH (Dan Bisson, AIA, 603-626-1242);

Udelsman Associates, Hollis, NH (Dave Udelsman, AIA, 603-465-6960);

Weller & Michal Architects, Keene, NH (Tom Weller, AIA 603-357-4031).

DAVID E. GODDARD, P.E.

Personal Resumé

1 Mapleleaf Drive Nashua, New Hampshire 03062

(603)888-1632

SUMMARY

Over thirty-five years experience designing systems, preparing estimates, supervising installations. Marketed HVAC equipment and handled customer service. Background includes project responsibility and designing with HVAC engineering firms and with contractors. Also sales engineering and facilities engineering positions.

PROFESSIONAI 1988 - Present	DESIGN DAY MECHANICALS/ P&S MANAGEMENT Exeter, New Hampshire President of DDMI and Vice President of Engineering at P&S Management.	1966 - 1967	ROLLINS, KING & McKONE Manchester, New Hampshire HVAC Engineer Joined this firm by invitation of Mr. McKone who was formerly Plant Engineer at Honeywell. Rejoined firm in 1974.
1977 - 1988	GODDARD ENGINEERING Nashua, New Hampshire Self-Employed Consulting engineer working with architects and industry, preparing bid documents, energy studies, etc., for schools, office buildings and manufacturing facilities.	1963 - 1965	HONEYWELL INC., Brighton, Massachusetts Facilities Engineer In charge of creating the proper environment for testing the computers manufactured by the Corporation in their Eastern Massachusetts plants: Brighton, Waltham, Newton, Lowell and Lawrence. Handled HVAC projects from design through startup.
1974 - 1977	ROLLINS, KING & McKONE Manchester, New Hampshire Project Engineer Handled HVAC design for industrial plants of nationally known plastics, electronics and meat packing client companies. Prepared estimate for over \$1.5 million mechanical installation in a large public office building. Clients included industrial, municipal and architectural organizations.	1958 - 1963 EDUCATION	HAYDEN HARDING & BUCHANAN, INC. Brighton, Massachusetts Campia Engineering, Boston, Massachusetts Draftsman/Designer Prepared construction drawings for HVAC projects of this engineering firm.
	Prior association with this firm from 1966 through 1967 with heavy concentration on	1963 - 1965	Mechanical Engineering , Northeastern University, Boston, Massachusetts
	architectural clients.	1960 - 1962	HVAC Design, Certificate, Franklin Tech, Boston, Massachusetts
1972 - 1974	J. L. HALL COMPANY Nashua, New Hampshire Sales Engineer	PROFESSIONA	L REGISTRATIONS
	Handled the marketing of all types of HVAC equipment for this Contractordealer organization. Responsible for customer service.	New Hampshire,	Vermont, Massachusetts, and Maine.

1967 - 1972 CARLSON CORPORATION

Cochituate, Massachusetts

processing factory.

HVAC Engineer

Responsible for design and cost estimating of many projects including two plants with 500,000 square foot area for the Construction Group. Volume averaged \$40 million per year.

Supervised the installation of equipment.

Among the projects were metal working and electronics plants, library and chemical

MILITARY SERVICE

1958

U.S. Army

PERSONAL

Married, four children, excellent health.

369 Page Hill Road, P.O. Box 447 New Ipswich, New Hampshire 03071 (603)878-4330 Fax (603)878-4311 e-mail dwaitt@jlc.net

SUMMARY

Over twenty-three years experience designing systems, preparing estimates, supervising installations. Background includes project responsibility and designing with HVAC engineering firms and with contractors.

PROFESSIONAL EXPERIENCE

Mar.1988

DESIGN DAY MECHANICAL SERVICES, Nashua, New Hampshire

to Present

Owner of Design Day Mechanicals, Inc. Project managing and design for HVAC and Plumbing Systems on

commercial, institutional, industrial, and residential buildings.

Aug.1985

DOWNING ENGINEERING PA, Harrisville, New Hampshire

to Mar.1988

Designer/Department Head. Project managing and design for HVAC and Plumbing Systems on

commercial, institutional, industrial, and residential buildings.

Nov.1983

HVAC DESIGN, New Ipswich, New Hampshire

to Aug.1985

Self-Employed.

Project managing and design for HVAC and Plumbing Systems on commercial, institutional, industrial, and

residential buildings.

Jan.1981

CONSEPT MECHANICAL, Rindge, New Hampshire

to Nov.1983

Designer/Estimator

Estimating and design for HVAC and Plumbing Systems on commercial,

institutional, industrial, and residential buildings.

EDUCATION

1974

Bachelor of Arts, Magna Cum Laude, University of New Hampshire, Durham, New Hampshire

PROFESSIONAL MEMBERSHIP

American Society of Heating, Refrigeration and Air Conditioning Engineers

PERSONAL

Married, one child, excellent health.

The Company

Reno Engineering and Light Design provides electrical engineering services, energy analysis and consulting, and architectural and specialty lighting design and consulting to Architects, Utility Companies, Building Owners and others designing and building in the northeast.

The company has successfully completed projects spanning the commercial and institutional spectrum including schools, health care facilities, retail stores, offices, medical facilities, municipal buildings and TV studios. Industrial projects include manufacturing, metalworking and warehouse facilities.

A powerful network of "state-of-the-art" computers and the latest in CAD and engineering programs provide the best in technical support, with the capability of high speed modern transfer and communication.

With engineers, designers and draftspeople who are second to none, *Reno Engineering and Light Design* has the experience, expertise and capabilities to provide the finest in engineering, design and consulting services available anywhere.

Victor Reno

Electrical and mechanical engineer with more than 20 years experience licensed and registered in several states, with specialties in lighting design and energy consultation for commercial, institutional and industrial buildings. Areas of expertise and experience include:

knowledge of electrical and electronic controls

architectural engineering for energy conservation

energy efficiency analysis and alternative energy systems post-secondary, adult and continuing education instruction

Specialty Lighting Design

Education

University of Connecticut, Storrs, CT ABD., Evaluation and Measurement, 1978

University of Connecticut, Storrs, CT
Master of Science, Educational Psychology/
Vocational Education, 1977
University of New Hampshire - Durham, NH
Graduate Studies, Electrical Engineering, 1977-1980

Keene State College - Keene, NH Graduate Studies, Counseling Psycology, 1977- 1980

Villanova University - Philadelphia, PA
Bachelor of Science, Electrical Engineering, 1972

Employment

July 1992 - Present

Reno Engineering & Light Design, Marlow, NH

Independent Engineering Consultant

Consultation and design in electrical and mechanical engineering, lighting design, energy efficiency and conservation.

1982 - 1992 KLR Engineering, Keene, NH

Engineering Partner

Partner in charge of electrical engineering. Responsible for engineering design and administration of commercial, institutional and industrial projects including schools, office building, hospitals and factories. Supervised staff of 10 engineers, designers and support staff. Conducted consultations and presentations on energy efficient lighting, conservation and efficiency in all aspects of the built environment to professional audiences, including building owners, contractors and architects.

1980 - 1982 Total Environmental Action Harrisville, NH

Technical Services Engineer

Principal contributor and project manager for variety of jobs involving applications and research engineering, including: design and evaluation of heating and control systems for numerous type of buildings; development of photovoltaic systems; the interface of small energy producers and large utilities, thermal and other energy storage systems; and alternative energy projects. Technical contributing editor for Solar Age Magazine and Solar Age Spec@cations Guide. Conducted workshops, performed extensive computer simulations and field construction applications. and field construction applications.

1978 - 1980 Contemporary Systems, Inc. Walpole, NH

Design & Field Services Engineer

Responsible for design, testing, production and installation of active warm air heating systems and integration with conventional HVAC systems. Also performed energy analysis and management studies for commercial and industrial buildings.

1975 - 1980

Keene State College Keene, NH

Instructor

Instructor in electricity/electronics, math and physics. Developed course curriculum for NH State Department of Labor for energy technician training program and taught 16 week pilot course.

1977 - 1979

Upward bound Program, Keene State College Keene, NH

Personal Counselor

Counseled students aged 12-18 years old in remedial federal education program for disadvantaged youth. Counseled students aged 12-18 years old in remedial federal education program for disadvantaged youth.

1971 - 1976 Self-employed Marlow, NH Electrical Contractor and Consultant

1966-1970 Burroughs Corp. Paoli, PA

Engineering Technician

Defense, space and Special Systems Group. Technician and design engineer for large scale parallel processing computers. Worked on ILLIAC IVY performed technical writing and documentation as well as logic and circuit design and prototype testing.

Project Experience

· Building electrical and mechanical engineering, including: utility interface, architectural and specialty lighting design, special systems, such as communications, data, security, fire protection and controls

Physical plant management

Architectural and engineering design and planning for energy efficiency and conservation

Alternative energy resources and design

Energy and resource management

Professional Associations

ASHRAE

American Society of Heating, Refrigeration and Air Conditioning Engineer

IES

Illuminating Engineering Society

Frank H. Lemay, PE President frank@milestoneengcon.com

EXPERIENCE

Thirty-seven years experience in the construction industry, including nineteen years as President and Owner of Milestone Engineering & Construction, Inc. and five years as Vice President and stockholder of R. C. Foss & Son, Inc. Pittsfield, New Hampshire.

Skilled in the marketing, negotiating, estimating, and contracting of negotiated and bid contracts.

Skilled in project management, including purchasing, scheduling, subcontract negotiations, and administration.

EMPLOYMENT

Milestone Engineering & Construction, Inc., Concord,

1988-Present

NH

President and Principal

Actively manages day-to-day business at Milestone working closely with all clients from project concept to completion.

R. C. Foss & Son, Inc., Pittsfield, NH

1977 - 1988

Vice President & Stockholder

Overall responsibility for engineering, marketing and estimating, and contract negotiation.

Handled the pursuit of all projects from contract to contract.

Was the principal in charge of all design/build projects.

Chief Estimator and Staff Engineer (1978 - 1982)

- Performed all estimating for the organization.
- Also worked with the owner and in the pursuit of all negotiated projects.
- Project Manager for numerous design/build projects.

Assistant Estimator (1977 - 1978)

Assistant to Chief Estimator

O'Donnell Construction Corporation, Bingham, MA

1972 - 1977

Superintendent/Project Manager

Handled the estimating, purchasing, and superintendence of numerous wastewater treatment and government rehabilitation projects.

Assistant Superintendent/Field Engineer (1972 - 1974)

Assistant to the General Superintendent handling layout, expediting, and subcontractor relations.

Lamont R. Healy, Inc., Bingham, MA

1970 - 1972

Started as a rod man on a survey crew, graduated to a transmit man and party chief.

Performed drafting and plotting of survey work.

Frank H. Lemay - 2 President frank@milestoneengcon.com

PROFESSIONAL ASSOCIATIONS

Member: American Society of Civil Engineers

Corporator: Laconia Savings Bank

Board Member - Concord Area Trust for Community Housing (CATCH): 1995 -

2005

Board Member - Second Start: 2005 to present

Project Committee - Concord Area Trust for Community Housing (CATCH):

1995 - present

Advisory Committee - Kimball Jenkins School of Art: 2008 to present

PROFESSIONAL ACCOMPLISHMENTS

Registered Professional Engineer - New Hampshire and Maine.

EDUCATION

Northeastern University, Boston, MA

Major: Civil Engineering

1973

Brian Gehris Project Manager briang@milestoneengcon.com

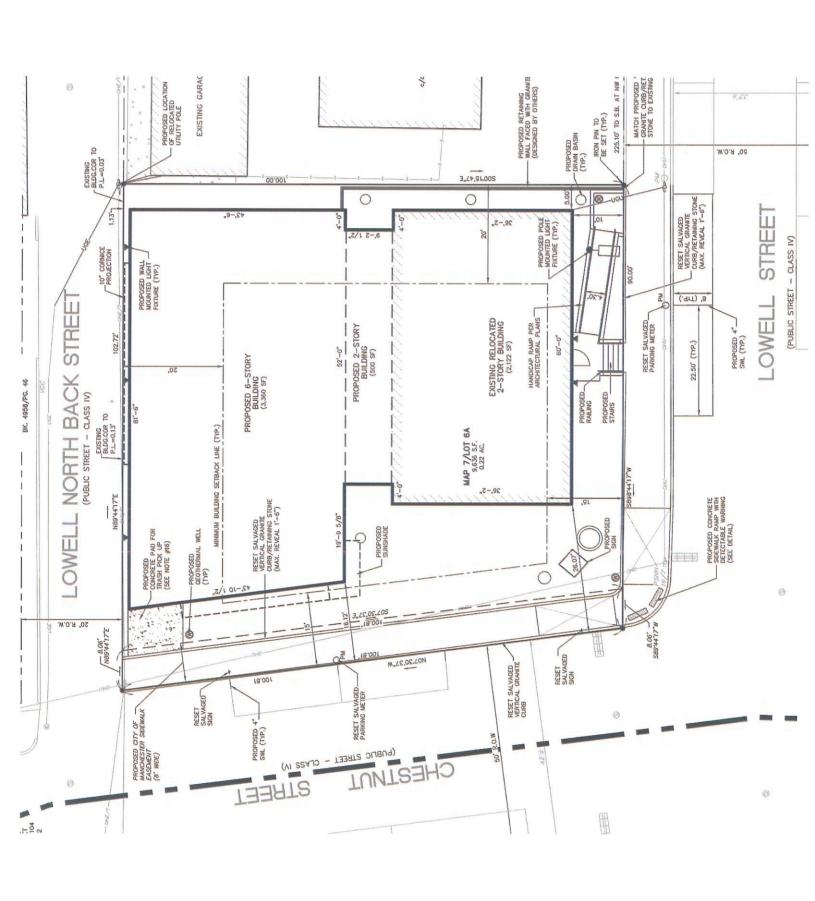
EXPERIENCE	Seventeen years experience in construction.			
	Degree in Building Construction Technology from Wentworth Institute.			
	Four years of field experience.			
	Over eleven years of project management and estimating exp	erience.		
EMPLOYMENT	Milestone Engineering & Construction, Inc., Concord,	1998-Present		
	NH			
	Project Manager			
	Engelberth Construction, Inc., Bedford, NH	1997 - 1998		
	Project Engineer/Project Manager's Assistant			
	Ferd Construction, Inc., Hollis, NH	1995 - 1997		
	Superintendent's Assistant/Carpenter's Assistant			
	Robie Construction, Manchester, NH	1995		
	Road & Pipe Crew Foreman/Basic Excavation Layout			
	R. C. Foss & Son, Inc., Pittsfield, NH	1994		
	Project Manager's Assistant/Estimating & Scheduling			
	Brox Industries, Inc., Dracut, MA	1993		
	Estimating & Bid Packaging/Pavement & Aggregate Sales			
	Yee by Yea Framing, Bedford, NH	1992		
	Rough Framing & Laborer			
EDUCATION	Wentworth Institute of Technology, Boston, MA	1991 - 1995		
	Bachelor's Degree in Building Construction Technology			
	Relevant Courses Include:			

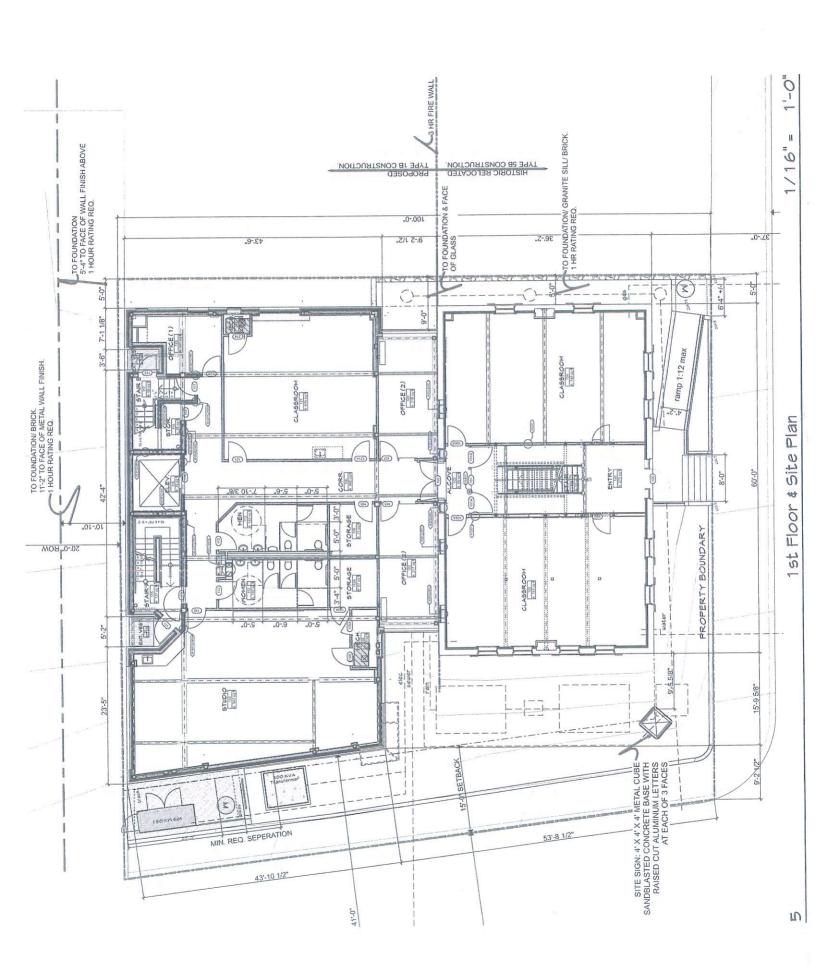
- Construction Management
- Construction Operations
- Estimating
- Project Scheduling
- Contracts and Codes

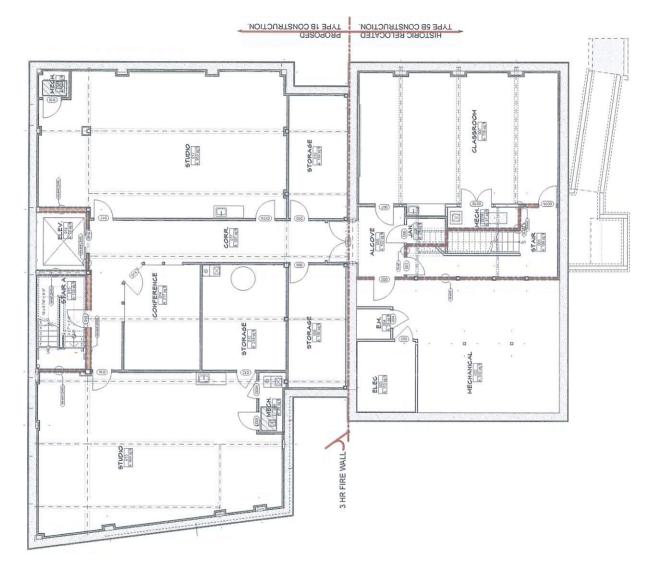


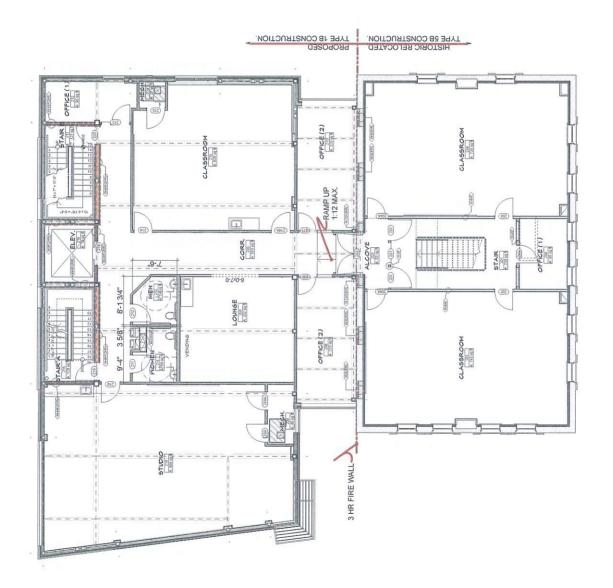
NEW HAMPSHIRE INSTITUTE OF ART 88 LOWELL STREET MANCHESTER NEW HAPSHIRE

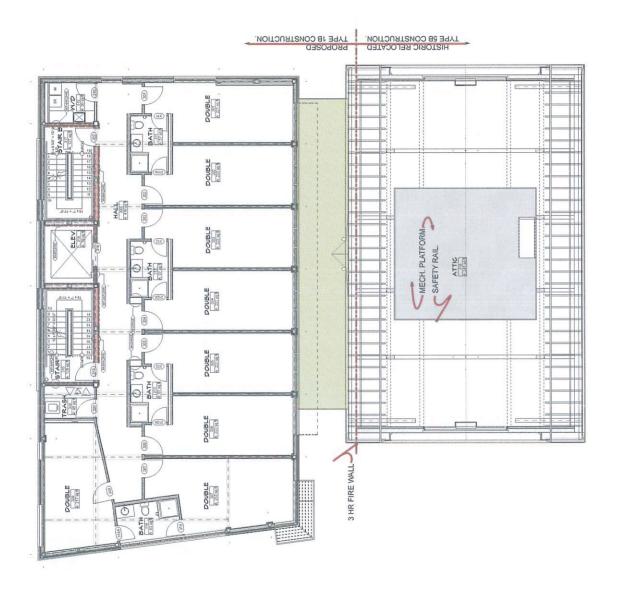
DENNIS MIRES, P.A.
THE ARCHITECTS
EXCELLENCE SINCE 1980

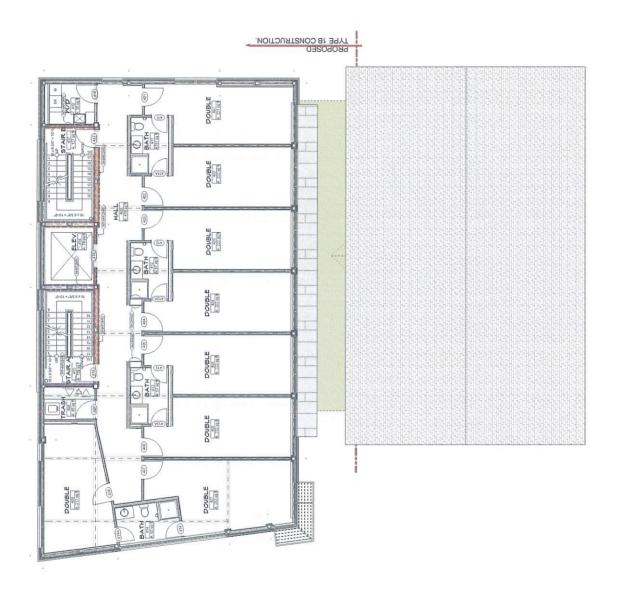


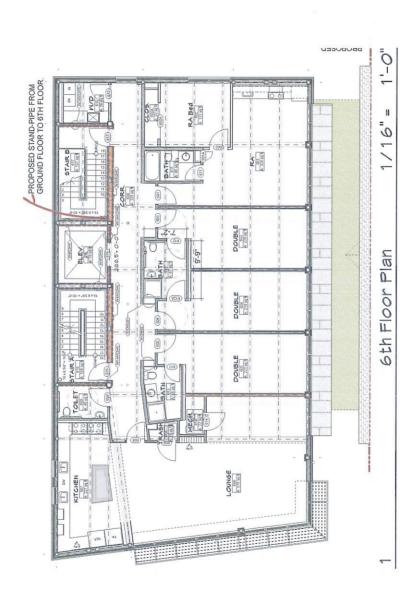












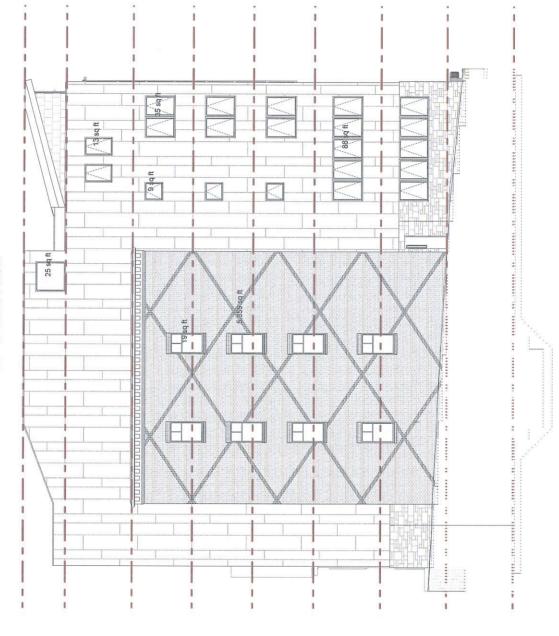
SOUTH ELEVATION

			20		7388-6-	278'-6"	768'-6"	25 8-	1.0-1.1		22.25.
PROPOSED TYPE 1B CONSTRUCTION.	1 HR INSIDE EXPOSURE REQ.	519SF/2920 SF=18% OPENINGS>25% ALLOWABLE FOR >5' SEPERATION.		25 sq.ft					so n	bs 92	
HISTORIC RELOCATED TYPE 5B CONSTRUCTION.	121SF/1104 SF=11% OPENINGS>25%	ALLOWABLE FOR >5' SEPERATION.							1,104 SR 1		

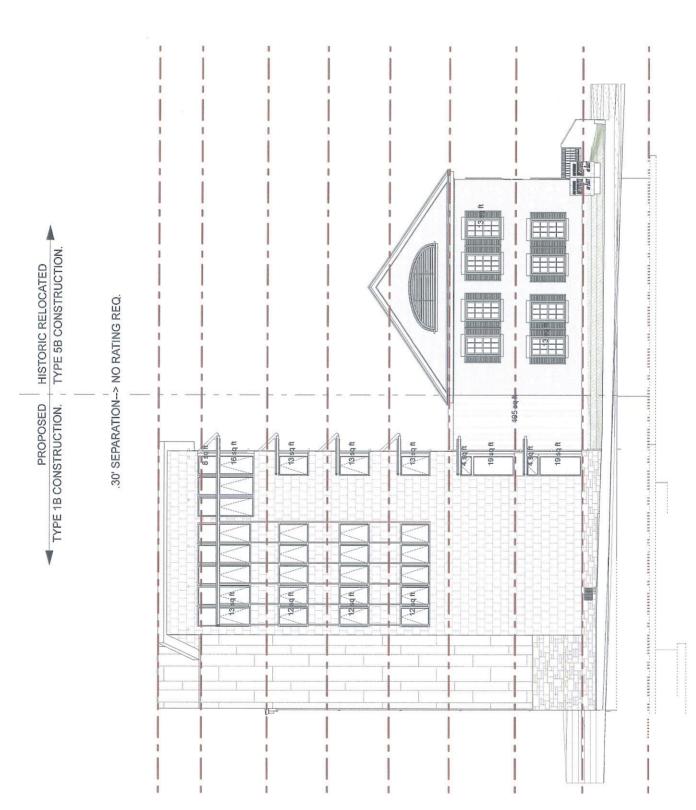
EAST ELEVATION

1 HR INSIDE EXPOSURE REQ.

511SF/5360 SF=10% OPENINGS -->45% ALLOWABLE FOR >10' SEPERATION.



NORTH ELEVATION



MEST ELEVATION

NEW HAMPSHIRE INSTITUTE OF ART 88 LOWELL STREET MANCHESTER NEW HAPSHIRE

THE ARCHITECTS EXCELLENCE SINCE 1980



COMMITMENT THROUGH COLLABORATION

New Hampshire College University Council

March 20, 2009

Jack Ruderman
Director Sustainable Energy Division
Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

Dear Mr. Ruderman,

On behalf of the New Hampshire College & University Council I am writing in support the renovation project proposed by the New Hampshire Institute of Art for the historic 88 Lowell Street property. This property has experienced substantial neglect over the past twenty years and the Institute is well positioned to be a steward for this important building. The Institute's plans for this landmark will be transformative for the entire downtown community in Manchester.

Over the past several years the Institute has become a significant presence in downtown Manchester and has demonstrated their commitment to maintaining the historic quality of the buildings they have acquired. This additional opportunity to expand the Institute's geographic footprint will only have positive results for the entire community. The 88 Lowell Street project is another example of how the Institute has carefully evaluated and managed the impact they have on downtown Manchester and the state of New Hampshire.

The Institute's commitment to add green features is another demonstration of their intention to lessen their impact on the city resources and to reduce energy costs. Additionally, the Institute's administration, staff and students by their very nature have a deep commitment and sensitivity to environmental priorities. The completed project will be used as an educational environmental example for school children and the community in addition to serving the Institute's expansion needs.

Each of the member institutions of the New Hampshire College & University Council recognize the leadership the Institute has taken in redeveloping the downtown Manchester area and we applaud their continued efforts. Please feel free to contact me should you need any additional information.

Sincerely,

Thomas R. Horgan President & CEO

N.

3 Barrell Court, Suite 100 Concord, New Hampshire 03301 Tel 603.225.4199 Fax 603.225.8108

City of Manchester



November 13, 2008

Mr. Roger Williams, President New Hampshire Institute of Art 148 Concord Street Manchester, NH 03104

Dear Mr. Williams,

As the Mayor of the City of Manchester, I enthusiastically support the renovation project proposed by the New Hampshire Institute of Art for the 88 Lowell Street property. For over twenty years, the property has suffered from substantial neglect and environmental damage. The Institute's purchase of the property in December 2007 provided the city and the greater Manchester community with a rejuvenated hope for this historic structure.

The New Hampshire Institute of Art has a strong history of renovation projects in the downtown area, each of which has enhanced the historical integrity of the properties while providing enhanced resources for Institute students and the general community. The renovation and building project at the 88 Lowell Street location is no different. The Institute has shared with me their plans for the historical preservation of Manchester's first high school building and the necessary addition to support their continued educational expansion.

The Institute's extraordinary success in recruiting and retaining students from the Manchester region will continue to serve the people of Manchester. Over the past few years, the student population has become visual evidence of the economic and cultural impact that the Institute has on the City. As a city, we are supportive of these continued efforts.

I am committed to continuing the renaissance that the City of Manchester has experienced over the past decade while honoring the rich historical and cultural diversity that makes our city unique. Part of the continued success will be the east to west development of our city center. The 88 Lowell Street project will be a very public and exciting development to help continue the city's urban redevelopment.

The Institute, as a landmark institution, will continue to provide the city with necessary cultural and artistic experiences while educating our country's emerging artists. It is with great pride and admiration that I support the Institute's efforts and I am hopeful that they can count on support from the community at large.

Sincerely.

Frank C. Guinta

Mayor

City of Manchester, NH

March 20, 2009

Jack Ruderman
Director, Sustainable Energy Division
Public Utilities Commission
21 South Fruit St., Suite 10
Concord, NH 03301

Dear Jack,

As a New Hampshire State Senator from the City of Manchester, I strongly support the renovation project proposed by the New Hampshire Institute of Art for the 88 Lowell Street property. The property experienced substantial neglect over the past twenty years and the Institute is an ideal owner and operator for the building. Their plans for this site addition are aggressive but, with their history of renovations in the downtown Manchester area, I believe they will be accomplished.

The Institute has been sensitive to select buildings within their geographic campus footprint, which have required substantial financial commitment for renovations and additions. The economic impact is visible as one drives through downtown Manchester, not only in the additional buildings, but also in the number of college-age students who live, work, and study in downtown. The 88 Lowell Street project is an example of how the Institute has carefully evaluated and managed the impact they have on the Manchester community and the state of New Hampshire.

With the 88 Lowell Street project, the Institute has chosen to add green features to an already extensive renovation to lessen their impact on the city resources and to reduce energy costs. Their student population, as an art college, is especially sensitive to the environmental impact they have on the earth. Thus, the Institute will incorporate a variety of green features. The completed project will be used to serve the Institute's expansion needs as well as providing an educational, environmental example for school children and the entire Manchester community.

The NH Institute of Art's project at 88 Lowell Street is an ideal public location and will be an excellent example of how green energies can be incorporated into existing and new building projects. The Institute has made an admirable choice and I am proud as a citizen of Manchester and a public official to support their efforts with regard to this project.

Sincerely,

Senator Lou D'Allesandro Senate District 20